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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/873,597	06/12/97	KAYYEM J	A-64558-1/RF

HM12/0316

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EXAMINER	
HOUTTEMAN, S	
ART UNIT	**PAPER NUMBER**
1656	20

DATE MAILED: 03/16/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
08/873,597	Kayyem
Examiner	**Group Art Unit**
Scott Houtteman	1656

☒ Responsive to communication(s) filed on *Dec 28, 1999*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *three* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *19-31 and 33-40* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *19-31 and 33-40* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *12 & 18*, filed 8/12/99 & 12/28/99

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

1. Applicant's response, filed 12/28/99, has been carefully considered with the following effect:

The objection and rejections of paragraphs 3a and 3b, Office action mailed 6/14/99, have been withdrawn in view of applicant's amendments.

The objections and rejections of paragraphs 4 and 6, Office action mailed 6/14/99, have been maintained.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 19-31 and 33-40 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claims 19-31 and 33-40 are indefinite in the nature of the attachment of the various recited components. Claims 19-31 and 33-40 recite various components. For example claim 19 recites: a "test chamber," a first electrode and a second electrode, various components of the first electrode and an AC/DC voltage source. There is no information about how these components are attached to one another. For example, there is no information about how the two electrodes are attached to the test chamber, or how the AC/DC voltage source is attached.

Focusing on the first electrode, there is no information on how the various components are attached to the electrode. Note that the specification contains the necessary additional detail,

for example on pages 37, lines 16-21 and page 38, line 1-2. However, these limitations are not in the claims.

B. Claims 19-31 and 33-40 are indefinite in the recitation of "passivation agent monolayer." It is unclear how this monolayer is attached to the electrode. It is unclear whether the monolayer is adsorbed onto the surface of the electrode or attached in a specific, ordered manner. Also, it is unclear whether a "passivation agent monolayer" is the same as a self assembled monolayer. The specification makes no mention of a self assembled monolayer.

C. Claims 19-31 and 33-40 are indefinite in the location of the electron transfer moiety. This limitation is totally absent from all but claims 25-27. Even in claims 25-27 it is unclear how the electron transfer moiety is attached to the apparatus. The remaining claims it is unclear whether the apparatus is claimed so that it will be used in methods that do not require an electron transfer moiety

4. Claims 19-31 and 33-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Ribi et al., US Pat. 5,571568 (11/1996) filed 6/1995, effective filing date 6/15/89 (Ribi) for reasons of record.

5. Applicant argues that "conductivity or redox state of the spacer used to connect the nucleic acid and the electrode (i.e. either a conductive oligomer or an insulator) does not change during the assay.

This argument is not persuasive. The claims are not method claims and thus are not limited to any specific method of use. The claims read on any prior art method so long as there is no specific structural limitation that prevents the product from functioning in the prior art method.

In particular, the claims are not limited in a way that would require that the spacer redox state does not change. Furthermore, many of the claims, for example claim 19 are not even limited to specific chemical compositions for the spacer.

Applicant argues that Ribi does not employ covalent bonds. This argument is not persuasive. The mode of attachment to the electrode in Ribi involves covalent bonds. The critical feature in Ribi is not avoiding covalent attachment but rather to close the electric circuit. For example, Ribi explains that the nucleic acid can be attaches with a linker which can take many forms, depending upon its specific purpose. This includes such covalent bonds as suggested in col. 5, lines 45-57. The whole purpose of attaching the nucleic acids is to complete an electric circuit. This is done with a myriad of prior art methods, some of which involve the formation of covalent bonds and some of which do not.

6. Applicant argues that "Clearly, the compositions of Ribi et al. do not have monolayers." This argument is not persuasive. Ribi teaches monolayers for example at col. 26, line 39.

7. Claims 19-31 and 33-40 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ribi for reasons of record.

8. Papers relating to this application may be submitted to Technology Center 1600 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center 1600 Fax numbers are (703) 305-3014 and 308-4242.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Houtteman whose telephone number is (703) 308-3885. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 8:30 AM - 3:30 PM. The examiner can also be reached on alternate Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached at (703) 308-1152.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0196.

Scott Houtteman
March 13, 2000

SCOTT W. HOUTTEMAN
PRIMARY EXAMINER